

APPENDIX F: DEHOOKING AND DISENTANGLEMENT PROTOCOL

I. ANIMALS NOT BOATED

For animals that are too large to be boated, use the ARC 12' Dehooker, the LaForce Line Cutter and gaffs and poles already aboard the vessel to remove the gear and hooks. Biopsy samples should be collected after disentanglement but before dehooking efforts have been concluded and the turtle is set free.

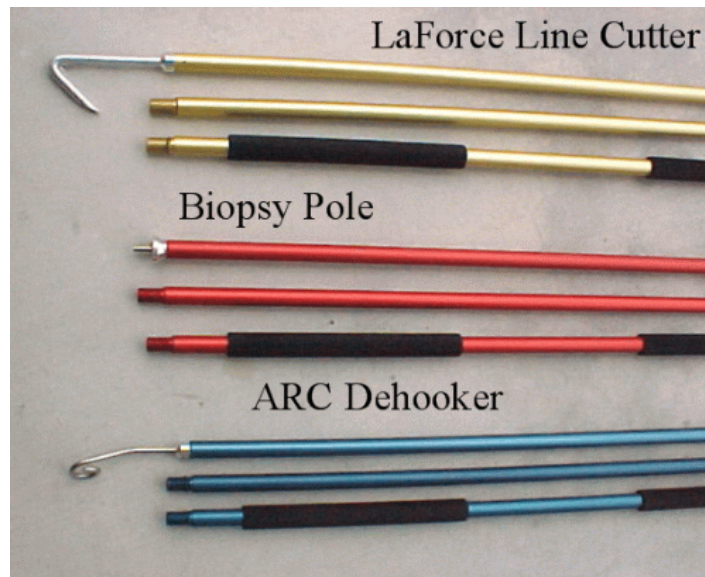


Photo by NMFS Miami

ARC 12' breakdown dehooker model

Three 4' anodized aluminum sections comprise the ARC 12' breakdown dehooker model:

1. *The working end section:* The pigtail curl insert end is round and blunt so that it will not cause injury to the animal during the release procedure.
2. *Middle section:* The middle section is fitted with specialized male and female threads to prevent cross threading. Addition or removal of the middle section determines overall pole length, (i.e. 8' or 12') and addresses the problem of various freeboard heights.
3. *Handled end section:* This section is equipped with 2 sure grip handles and a rubber foot to reduce electrolysis while sitting upright on the deck and has a drilled tag line (tether) hole. The middle and handle sections are interchangeable with the NOAA / Epperly Biopsy Pole and the NOAA / Laforce Line Cutter.

NOAA / LaForce Line Cutter

Three 4' anodized aluminum sections comprise the LaForce Line Cutter breakdown model:

1. *Working end section:* This section is equipped with 2 serrated stainless steel blades, which are recessed and shielded in a V fashion to prevent injuries to the animal or crew. All components are replaceable. When the line cutter is on board or in use, care should be taken not to expose a crew member to the cutting edge. This device can be used to cut almost all types of fishing gear.
2. *Middle and Handled end section:* Same as ARC 12' Breakdown Dehooker. These sections are interchangeable and compatible with the ARC 12' Dehooker and NOAA / Epperly Biopsy Pole models.

There are 3 possible sea turtle interactions with the fishing gear: 1) Hooked animal but not entangled, 2) Hooked and entangled animal and 3) Entangled animal but not hooked. The vessel must be stopped in order to respond to these interactions.

Scenario 1: Hooked Animal But Not Entangled (2 crew / Dehooker)

1. The wire (leader) personel must carefully bring the animal along side the vessel.
2. The wire man should be to the left of the de-hooking person and must maintain a taught leader (wire), staying clear of all excess leader material (no loops around the feet or hands).
3. The dehooking person should be to the right of the wire man in order to capture the leader and allow for proper release technique. The crew should not get in-between the leader and the device in case the line breaks or the hook dislodges.
4. The dehooking person must then engage the leader from the right with the open curl end of the dehooker facing up. Place the dehooking device on the leader at a 90 ° angle, pull until the curl of the dehooking device captures the line, and rotate the device 1/4 turn clockwise. The leader will then be in the center of the pigtail curl. Note that the dehooker must be turned clockwise to achieve this placement.
5. Slide the dehooker down the leader until it engages the shank of the hook and bottoms out. Slightly rotate the device back and forth to ensure proper engagement on the hook.
6. After proper engagement with the hook, the dehooking device must be brought together with the leader (parallel with the leader / wire man). If the line is not parallel with the dehooking device, the point of the hook will have a tendency to turn out and allow for possible re-engagement after release.
7. The wire man and the dehooking person must work together. The leader must be kept taught until the moment the hook is to be removed. The wireman and the dehooking person must

communicate for timing. To aid the wireman, the dehooking person should grasp the leader along the length of the pole, so that the wire man can tell when the device is in the proper position (parallel). Disengage the hook with a short, sharp jab downward. The wire man must give a little slack when jabbing downward. After the hook is removed the point of the hook will rotate and stop on the offset bend on the dehooker, protecting the point and preventing re-engagement of the hook.

Scenario 2: Hooked And Entangled Animal (*multiple crew / Dehooker / Line Cutter / gaff*)

For leatherbacks wrapped in line or hooked in the armpit / shoulder area with the line running under, not over the turtle, the inverted V - Style technique is necessary for release.

Inverted V-Style Technique

1. Once at the surface, the animal may have a tendency to entangle itself more. After the first inspection, let the turtle calm down for a short period of time (in some cases up to 10 minutes) then gently wire it to the boat.
2. An additional crewmember should carefully engage the monofilament leader closest to the embedded hook with a gaff or a J-style dehooker, depending on the distance to the hook. The gaff person should pull the line upward into an inverted V to enable engagement of the dehooking device on the line closest to the hook.
3. Follow steps # 2 - 7 on Scenario 1. The gaff person would serve the same function as the wire man.
4. After the hook is removed and secured by the dehooker, carefully remove all line with the NOAA / Laforce Line Cutter (Scenario 3).



Gaff used on a leatherback
(photo by ARC).



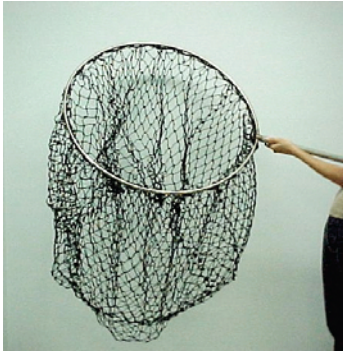
Leatherback hooked in the armpit
(photo by NMFS Miami).

Scenario 3. Entangled Animal But Not Hooked (*2 crew / Dehooker / Line Cutter*)

1. Secure the loose hook with the dehooker (safety) and carefully slide the blunt end of the line cutter under the line that you wish to remove. Pull the line cutter and the line will be captured in the two blades of the device.

II. ANIMALS BOATED

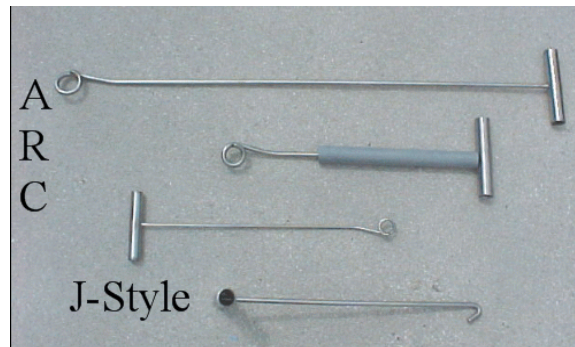
Use the dip net to bring smaller turtles on board. After immobilizing them (i.e. upside down on a tire) use the short handled dehookers to remove any hooks. With these hand held units, you may want to wrap the leader around the handle (after the dehooker is seated on the shank of the hook) to maintain leader tension.



Dipnet used to bring small turtles onboard.



Turtle immobilized upside down on a tire.
Photo by NMFS Miami.



Short handled dehookers.

ARC Dehookers (Long and Short)

1. With the leader to the left of you and the dehooker in your right hand, place the dehooker on the leader using a 90 ° angle, with the open end of the curl facing upward.
2. Pull the dehooker toward you until the pigtail curl engages the line (like a bow & arrow). Maintain a moderate amount of tension on the leader and rotate the dehooker 1/4 turn clockwise until the leader is in the center of the pigtail curl.
3. Slide the dehooker down the line until it engages the hook, slightly rotating the dehooker until it is firmly seated against the shank of the hook.

4. Bring both hands together (leader and de-hooker parallel with each other) while maintaining tension on the leader. With the leader and dehooker together, give a short, sharp jab to dislodge the hook and remove it from the animal. The point of the hook will rotate and stop on the offset bend, protecting the point and preventing re-engagement. This is usually a one-person job.

ARC Dehooker with PVC Bite Block

This dehooker has been modified to prevent smaller sea turtles from biting down on the dehooking device and preventing internal hook removal. This PVC bite block also reduces the damage on the sea turtle's rhamphotheca when the turtle bites down.

1. To correctly use this dehooking device you must keep the PVC bite block pulled up along the handle when engaging the leader, to allow for proper leader and hook engagement.
2. Maintain leader tension and place the dehooker on the leader at a 90° angle with the open end of the curl up. Pull the dehooker towards you (like a bow and arrow) until the open end of the curl engages (captures) the leader.
3. Rotate the dehooker 1/4 turn clockwise. The leader is now in the center of the pigtail.
4. Release the bite block allowing it to fall to the bottom of the dehooker, following the leader insert the curl and PVC end into the mouth as far as the animal will allow before it bites down. Once the sea turtle bites down, the dehooker will still slide up to 6" in and out.
5. With the sliding motion allowed by the bite block, continue to follow the leader down to the shank of the hook.
6. After you are seated on the shank of the ingested hook, (leader tight) give a sharp jab downward with the dehooker. The hook is removed and the point of the hook will rotate and stop on the offset bend of the dehooker, protecting the point and preventing re-engagement of the hook.
7. After hook is dislodged, keeping leader tight, pull the dehooker out until it stops at the PVC bite block. The bite block will cover the hook and further prevent re-engagement. Wait for the turtle to open its mouth and remove the entire dehooking device and hook.

J-Style Dehooker

1. Hold the leader in your left hand with tension. Hold the J-style dehooker in your right hand. Place the dehooker on the leader proximal to the hook. With tension on the leader, lower the left hand (the hand with the leader) to the 8 o'clock position, the dehooker to the 2 o'clock position; twist the de-hooker slightly and pull until the hook is dislodged.

Additional Equipment

The bolt cutters can be used to remove as much of the hook as possible, if it must be left in place, or to remove the barb or eye so that the remainder of the hook can be rotated out. The needle-nose pliers can be used to remove hooks that are deep in the animal's flesh and must be twisted during removal. The monofilament cutters can cut any line that is attached to the gear and on the animal.

